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ABSTRACT

A study was conducted to determine some strategies useful in fostering entrepreneurship through business incubators and postsecondary programs supported by community and technical colleges. Data were gathered through a survey of entrepreneurs and incubator managers in 74 business incubators across the United States and individual and group interviews with business entrepreneurs and managers, teachers, and students in business incubators that offer systematic programs designed to develop entrepreneurial skills. The data were analyzed based on quantitative and qualitative descriptions of the experiences of entrepreneurs in and out of business incubation. Results were used to develop a profile of entrepreneurs, key factors associated with entrepreneurship, and implications for fostering entrepreneurship through business incubators and community and technical colleges. The use of real information to formulate business plans and as a method of strengthening entrepreneurial skills appears to be an effective instructional strategy for both business incubators and community and technical colleges. In general, the contextual application of educational and training opportunities appears to be critical for successful programs in postsecondary education and in partnerships with business incubators. (Contains 22 references.) (KC)

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Fostering Entrepreneurship for School-to-Business transition: A Challenging Role for Postsecondary Education

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FOSTERING ENTREPRENEURSHIP FOR SCHOOL-TO-BUSINESS TRANSITION: A CHALLENGING ROLE FOR POSTSECONDARY EDUCATION

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This paper examines some strategies to foster entrepreneurship through business incubators and postsecondary programs supported by community and technical colleges. We outline possibilities for entrepreneurship development considering education and training opportunities in and out of business incubation and in business partnerships with postsecondary institutions. The proposed strategies derived from survey information provided by entrepreneurs and incubator managers in 74 business incubators from across the United States. Individual and group interviews were also conducted with business entrepreneurs and managers in business incubators which offer systematic programs designed to develop entrepreneurial skills as well as administrators, teachers and students at community colleges which offer entrepreneurship classes or courses. The analysis was based on quantitative and qualitative descriptions of the experiences of entrepreneurs in and out of business incubation. Results were used to develop a profile of entrepreneurs, key factors associated with entrepreneurship, and implications to foster entrepreneurship through business incubators and community/technical colleges. The utilization of real information to formulate business plans and as a method to strengthen entrepreneurial skills appears to be an effective instructional strategy for both business incubators and community/technical colleges. In general, the contextual application of educational and training opportunities appears to be critical for successful program in postsecondary education and in partnerships with business incubators.

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> *Just to let you know 80 percent of the folks who... knock on my office are looking for a new career path. They have been working for corporate America and now they want to find a new career path, and starting their own small business is the path that they've chosen. And so what we've done here with the County Community College is to fund a series of programs through the Small Business Development Center network.*
>
> *A Business Incubator Manager*

The pervasive effects of global competition and the application of new technologies are rapidly changing the way the American workplace operates. These effects are promoting an increasing demand for highly skilled workers who can adapt to and function in high performance jobs. However, employers and higher education administrators have indicated that the majority of high school students who enter the work force do not possess the necessary skills for effective and rewarding participation in the workplace (National Center on Education and the Economy, 1990; Committee for Economic Development, 1992). As a result, many unskilled individuals are quickly losing their earning power and joining the ranks of the unemployed. Indeed, the lack of adequate preparation for high performance jobs results in significant transition problems for about half of the high school graduates annually (William T. Grant Foundation Commission on Work, Family and Citizenship, 1988).

Although declining productivity is usually associated with deficient preparation of workers, the other side of today's highly competitive global economy is also requiring new management styles and entrepreneurial skills to recognize changes and improve business performance (Office of Technology Assessment, 1990; SCANS, 1991). This is in addition to the knowledge and skills demanded from workers in the high performance workplace scenario such as team work, critical thinking, problem solving, and communication skills (Bailey, 1991). Since small enterprises play a major role in the nation's economy, these demands may have a greater impact on them. Reports on the state of the small business industry have indicated that approximately 98 percent of all enterprises in the United States are small companies. However, the U.S. Small Business Administration (1991) indicated that approximately half of all new businesses fail within two years of operation. Reasons for such failure include: lack of planning skills, inadequate controls, poor management skills, inability to market products or services, and lack of skills to locate professional help when necessary (NBIA, 1991). It is evident that technical and business skills are not enough to operate a business in today's economy. Entrepreneurial skills are also required to anticipate changes, identify opportunities, and create a high performance working environment according to the realities demanded by global competition.

The percentage of failures in the operation of new small businesses suggests the need to develop educational efforts to foster entrepreneurship as a new form of emerging vocationalism through postsecondary institutions. This strategy appears to have important implications for the preparation of

entrepreneurs to face the constant demands of a changing economy. However, to implement such efforts, it is necessary to understand the factors that influence the development of entrepreneurial skills with focus on the role of postsecondary institutions.

Even though business incubation and the need to foster entrepreneurship in the community is rather familiar and obvious for those involved in economic development, these concepts are peripheral to stakeholders in postsecondary vocational-technical education. Most studies in this area, if not all, are conducted by individuals and entities in the fields of economics, labor, and industrial relations and the connection with vocational-technical education is not that obvious for practitioners and administrators in postsecondary education. Only until recently, these topics have been discussed to begin exploring the potential contributions of postsecondary vocational-technical institutions to the process of economic development. Thus, the purpose of this research was to examine the experience of entrepreneurs, business incubator managers, and postsecondary institutions involved collectively in educational and training strategies aimed at fostering entrepreneurship. The experience of entrepreneurs in business incubation---an environment where firms are to be nurtured and provided with opportunities to develop entrepreneurial skills---was viewed as an appropriate medium to gather rich insights about entrepreneurship. The objectives were to: (a) develop a shared understanding of entrepreneurship and entrepreneurship development, and (b) identify opportunities for two-year colleges to develop entrepreneurship as another career path for individuals with diverse backgrounds.

Parallel surveys of businesses in incubation are conducted periodically to describe the state of the industry in business incubation from an organizational perspective rather than from the in-house client perspective (e.g., National Business Incubation Annual Reports). Further, there is little information describing the efforts of postsecondary institutions in fostering economic development and entrepreneurship by supporting business incubation. Thus, few studies describe the population served by postsecondary vocational institutions, and the characteristics of partnership arrangements with business incubators. Based on these premises, it was important to conduct this study to describe the experiences of entrepreneurs in business incubation to better understand the efforts of postsecondary vocational institutions in fostering entrepreneurship in the community and ease the transition to business ownership.

Method

This research was conducted using a survey approach. The survey was conducted in collaboration with the National Business Incubation Association (NBIA) to draw participation from their membership. Two surveys---one for business incubator managers and another for incubator clients---were developed within the total design of the study. As a complementary strategy to offset possible low

return rates from the target population consistently reported in related literature (e.g., NBIA, 1991; Smilor & Gill, 1986), nine case studies were conducted representing urban, rural, and suburban communities, as well as different primary sponsorship, business incubation approach, and target clientele. For the purpose of this paper the focus will be on the survey approach and only highlights of findings from case studies are used to discuss results.

The definition of entrepreneurship used herein is characterized as the ability to "gather resources for creative and innovative purposes to meet needs or solve problems" (Goodman, 1994, p. 36) in business development using knowledge of business techniques in conjunction with the application of a personal value system. That is, entrepreneurship involves knowledge about products, markets, and competitors embedded within a value system of persistence and motivation which together shape that intangible referred to as entrepreneurship. The business incubation concept is defined as an strategy to foster economic development through the provision of favorable conditions---commercial space and services at low cost---to nurture the development and growth of new small firms. These conditions also include clerical and administrative support, basic office equipment, and counseling services to assist the development and survival of the new companies in business incubation (NBIA, 1991; Smilor & Gill, 1986).

Sampling

We followed a two-step sampling procedure to gather data on managers and clients from business incubators sponsored primarily by two-year colleges, in comparison to two other types of incubators. The other two types considered in this study were incubators sponsored by universities and by a variety of other organizations in the community (e.g., economic development agencies, state and local governmental agencies). The first step involved the selection of business incubators. Members of the NBIA were the sample frame considered for the survey. The overall membership of NBIA reported in 1993 was 499 incubators located in the United States, Canada, and Puerto Rico (NBIA, 1993). Of these, only 25 incubators were found associated primarily with two-year colleges. Given our interest on this category and the small number of business incubators sponsored by two-year colleges, we decided to include all of them and a proportional sample from incubators sponsored by universities (75) and other sources (100). The overall stratified random sampling process included 200 incubators representing 40% of the total NBIA membership. The second step involved a selection procedure of incubator clients. According to the NBIA (1991), the average number of clients per incubator was 12, with the possibility that none be in incubation (e.g., the incubator may serve external clients only). Thus, based on feedback from NBIA executive staff we decided on a "convenient" sampling process of business incubator clients and initially targeted two clients per incubator for an overall target sample of 400 clients. To improve an expected low response rate (based on previous NBIA experience) it was decided to over-sample and send

survey materials to five clients per incubator for an overall adjusted sample of 1000 clients. Incubator managers were the target contact respondents for the survey of incubator managers and to help facilitate the survey of in-house incubator clients.

Survey Instruments

Given the nature of the target population (individuals with busy schedules and high mobility), we decided to develop self-administered questionnaires including closed questions. Survey instruments were developed for managers and clients with focus on the following areas: (1) Incubator services, (2) aspects of entrepreneurship and business development, and (3) demographic profile of entrepreneurs and business incubator managers. Questionnaires were pilot tested at one business incubator and further revised by our National Advisory Group. Based on this review process, questions were modified in terms of wording, deleted or added, and framed in different response scales (e.g., Likert scale, multiple choice).

Data Collection and Follow-up Activities

Anticipating a low return rate, follow-up mailings were scheduled 3, 6, and 9 weeks after the original mailing. All in all, questionnaires were returned from 45 percent of the initial target sample and by 40 percent of incubator managers. This is considering questionnaires which could not be delivered because some incubators were no longer in operation or had no in-house clients. The average number of clients responding per incubator was 2.16.

Analysis

The survey analysis included a comparison of initial and late respondents (i.e., those who responded as a result of follow-up activities) to identify bias associated with initial nonresponse and potentially biases on characteristics of the non-respondents. A comparison of both the demographic profile and responses of these two cohorts of respondents yielded basically the same results indicating these two samples were representing the same population. The analysis was conducted using basic descriptive statistics (e.g., frequencies, averages) to represent the response patterns of managers and clients for each question or sets of questions. Further, to account for the anticipated low response rate, a concurrent study was conducted to review nine sites to develop in-depth case studies. Highlights from these case studies were used to complement, verify, and illustrate survey findings with qualitative descriptions of key results.

Results and Discussion

The results and discussion are presented in two sections: Understanding entrepreneurship and entrepreneurial development through business incubation. Throughout the discussion, the role of two-year colleges is highlighted to build an outline for the implications on postsecondary education which will be further developed after the discussion of results. Material from case studies conducted to complement our survey is included here to illustrate and enrich the discussion with stakeholder-level information (i.e., entrepreneurs, incubator staff, college staff, students). Percent figures are based on responses from 28, 71, and 61 in-house entrepreneurs from incubators sponsored by two-year colleges, universities, and other organizations, respectively. The overall number of respondents for the incubator client survey was 160. Similarly, percent figures of findings from the survey of incubator managers represent responses from 12, 36, and 26 managers associated with "two-year college," "university," and "other" incubators, in that order.

Understanding Entrepreneurship

To build an understanding of entrepreneurship, a profile of respondent entrepreneurs is presented to describe personal characteristics, experiences, and perspectives of entrepreneurs on opportunities and limitations to start up and operate a business.

Background Characteristics. Overall ethnic representation was characterized by 88.2 percent Caucasian followed by small proportions of African-Americans (5.8%), Asians (3.2%), and Hispanic (2.3%) entrepreneurs. Native Americans were represented by only .6 percent of all respondents. In terms of gender, 77.1 percent of respondents were male and 22.9 percent female. Further, the majority of the respondents---roughly 60%---were between 36 and 50 years old, while the rest were either younger (20% between 26 and 35 years old) or older (20%, 51+ years of age). The majority of respondents reported an educational level described primarily by a 4-year college education (45%), followed by masters' degrees (25%), and Ph. D's (11.9%). These results provide additional evidence to support the predominance of male, Caucasian, middle-age entrepreneurs in business incubation over any other group. This pattern of participation is consistent across types of business incubators. Across business incubators, minority groups and females are represented below their rates of participation in the population. This is an indication that two-year colleges supporting business incubation are not making any progress in targeting minorities or females to foster diversity in entrepreneurship in the community. The same can be said for the two other types of business incubators as well.

Entrepreneurs reported gaining previous experience related to the activities and operations of their current business primarily through hands-on work in school (23%), internships in similar businesses (23%), part-time jobs in related industry (17.3%), and mentor programs (14.1%). Business and technical experiences appear to be further refined through work in industry and the corporate world (40%); and undergraduate and graduate studies (33.8%) for the majority of respondent entrepreneurs. It is clear the contribution of two-year technical colleges is extremely low in preparing and supporting individuals entering the business world through the establishment of their own businesses.

Opportunities and Limitations for Business Start-Ups. The majority of entrepreneurs indicated they were attracted to the business incubators because of the affordable business space and clerical support. Together, business space and clerical support accounted for 69.8 percent of the responses and almost identical combined responses were found across incubators. Not surprisingly, during earlier stages of business development entrepreneurs reported an unrealistic evaluation of their abilities to implement their business idea. The majority of respondent entrepreneurs, for instance, reported having everything under control with the exception of adequate financial support. In general, managers agreed that entrepreneurs come into the incubator with a well defined idea of their business but they do not usually have a written business plan and need help in developing one. Across incubators, managers agreed entrepreneurs face inadequate financing and lack an understanding of all the implications for business start-ups. These results were verified by personal insights of entrepreneurs and managers interviewed for case studies.

Provision of clear and well defined consulting services and the development of the business plan appear to be key to support entrepreneurs at early stages of their business operation. Further, although financing assistance is not stressed across incubators, there are a few instances where small programs provide seed money and complementary funds to government and bank loans to assist new start up ventures.

Surviving in the Business World. Entrepreneurs encounter a different set of problems once they get their business in operation after having developed and tested an idea. At this point the technical knowledge and a good business idea are not enough to guarantee success. Other elements of business operations such as business organization, personnel management, finances, marketing, and developing plans for expansion begin to hit all at the same time. Again, respondent entrepreneurs across types of incubators felt they are well prepared to handle all these operations but recognize the need for further education and training. Concurrently, managers agreed entrepreneurs require assistance on all these aspects of business operations. It is at this stage, where many opportunities for entrepreneurial

assistance is required to help entrepreneurs make the transition from incubation to the outside world, to expand the business operation, or to cluster with other businesses in incubation or in the community.

Perspectives on Entrepreneurship. One school of thought in the field of entrepreneurship is that the intrinsic nature of it can not be taught. The suggestion is to not waste time on classes on entrepreneurship, ignore the business plan and market and global strategies, and focus on just one sale at a time (Sudikoff, 1994). Usually, a number of successful examples are given but those are anecdotal accounts equivalent to stories about someone winning the lottery. Another school of thought defines entrepreneurship as both born and made. As such, people who are exposed to entrepreneurship and the tools of the trade can reduce the risks of venturing in business and are more likely to succeed (Timmons, 1994, Goodman, 1994). That is, an entrepreneurial program may not be able to teach entrepreneurship per se but it can teach specific techniques and strategies which can complement the intrinsic character of this personal phenomenon. In essence, this thesis is central to the concept of business incubation. Survey results and personal insights gathered through case studies confirm the value of this approach.

Surveyed entrepreneurs and managers agreed on the intrinsic nature of entrepreneurship but also recognized the complementary importance of business and technical skills, ability to gather information and resources for entrepreneurial purposes, and the interpersonal and cultural dimension. Overall, these characteristics are consistently identified across incubators:

- *Personal characteristics.* This is a consistent characteristic mentioned by survey respondents and by case study participants. In fact, 15.8 percent of respondent entrepreneurs (overall response) considered personal motivational factors as the most important element to succeed in business: The wish to be independent, take risks, and overcome obstacles found in their business career. The intrinsic ingredients of these personal characteristics also include a highly focused attitude of hard work, teamwork, and creativity to meet business goals. A majority of entrepreneurs interviewed for case studies realized the major limitation to starting and running a business is not the lack of capital or business skills but the personal drive and creativity to get ahead in business.

- *Technical skills.* This an essential component of entrepreneurship mentioned by entrepreneurs (14.8%) suggesting that one has to be technically competent to understand how to produce or deliver goods and services. It is obvious, entrepreneurs recognize that a certain degree of technical knowledge in their intended business field is necessary before attempting to become independent. Incubator managers did not rate this element as high perhaps because this is one of the least important reasons for business failures and because the need for further education

and training is also not that high. The development of a business plan can also be used to identify areas that may require professional attention to reinforce the technical success of the business.

- *Business skills*. Across all business incubators the majority of respondent managers (59.40%) were emphatic in giving this element of entrepreneurship a higher rating in comparison to other important factors (i.e., personal characteristics, technical and interpersonal skills). Evidently, the ability to maintain daily operations running smoothly—management, marketing, financial, decision making—is essential and entrepreneurs confirmed that this is the area where they need help more frequently. In fact, managers reported the lack of business skills is one of the most important reasons for business failures. Respondent entrepreneurs mentioned this aspect in proportion to other aspects (14.8%).

- *Entrepreneurial vision*. This is another intrinsic characteristic which can be more closely associated with entrepreneurship per se. It involves a business vision to succeed, expand and grow but it also includes thinking skills, problem solving, and creativity which was mentioned as a separate category. Respondent managers (20.8%) rated "entrepreneurial vision" in second place after business skills and further stressed that this is another important reason for business failures. It is clear that the creative utilization of information, services and resources available is perhaps central to the development and/or complement of an entrepreneurial vision. For entrepreneurs the importance of entrepreneurial vision was about equally important to other aspects (14%).

- *Interpersonal skills*. The ability to communicate clearly and effectively with clients, suppliers, creditors, and personnel is another area mentioned consistently across business incubators by respondent entrepreneurs. Managers rated this aspect as of moderate importance (8.5%) but recognized the lack of interpersonal and communication skills as a reason for business failures (15.14%). An opportunity to facilitate the development of interpersonal skills involves the informal synergistic dynamics occurring through constant interactions among entrepreneurs in business incubators, which help ease the business stress and provide for networking opportunities. Similar emphasis was given by respondent entrepreneurs in business incubation.

About Being a Minority or Female Entrepreneur. The profile of entrepreneurs in business incubation depicts a predominance of male Caucasian entrepreneurs over minorities and females. These findings reveal an under-representation of minorities and females in business incubation as a whole, even though these groups participate actively in the economy and the workforce (U.S. Small Business

Administration, 1991). Surveyed managers from incubators sponsored by two-year colleges and other organizations in the community believed that minority-owned firms are more likely to fail than the average firm in business incubation. Overall, all managers felt they are well prepared to service minority/female owned businesses, but they do not appear to actively target these groups according to survey and case study findings.

The perspectives and experiences of minorities and women entrepreneurs center on the understanding of the social business dynamics of community work and the interaction with other people involved in the business world. Even though female and minority entrepreneurs may be no different from business owners at large in terms of needs and skills profile, they are aware of the stereotypical perceptions about the groups they represent and have to develop an attitude of perseverance to cope with the effects of cultural characterizations which extend to the business area. Their experiences can be illustrated by the following accounts:

> *"I think that some women, or at least myself, are creating the environment that is appropriate for raising children and working. We need flexibility to succeed at both. And that's been a real primary motivation for me. It is a way to have flexibility to do what I want to with my children and still earn an income"—A white female entrepreneur.*
>
> *"I think it is politically correct to support women in business. By the same token, at first I've come against difficult situations where I keep thinking that if I were six feet tall and a man, I'd do a whole lot better. But I'm not"—A white female entrepreneur.*
>
> *"I think that you really have to work hard. I really don't think that [being a minority] is an issue. The way things are today, there's a real market for anyone so I don't think that [being a minority] in particular makes it any more difficult today. You're just going to really work hard and persevere with [all the rest]"—African-American entrepreneur.*

Entrepreneurial Development Through Business Incubation

Business incubation is one of the most dynamic strategies which facilitates entrepreneurship in the community, helps to create jobs, and stimulates economic growth and revitalization of depressed communities and neighborhoods. The focus of this section is on the role of business incubation in fostering entrepreneurship and perspectives of entrepreneurs and incubator managers on services provided by incubators with particular emphasis on education and training.

Business Incubator Managers' Background. The profile of business incubator managers conforms to demographic information reported previously (e.g., NBIA, 1991). That is, managers are largely

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Caucasian (91%), middle-age (46 year old, average), male (70%) individuals who hold either a bachelor's or a master's degree (80.3%). This demographic profile is consistent across business incubators and closely resembles the profile of entrepreneurs in business incubation having both under-representation of minorities and women. Managers have a diverse background of previous experience---mostly management and business related---and have been in their current position an average of 4 years. Across all incubators, only about 10 percent of the managers' previous experience is accounted by academic positions.

It is obvious the demands of the job across the board are on management expertise, building maintenance, and business consultation skills. The demographic profile and job focus may have implications for the lack of emphasis in targeting and/or interesting more minorities and women in business opportunities through business incubation. It appears that incubators managers are so busy maintaining the support of the incubator and involved in business maintenance that they do not have time to focus their attention in promoting entrepreneurship in the community. Under these circumstances, managers have little time for individual consulting services.

Incubator managers recognize this situation and would rather spend their time in direct consultation with clients (24.3%) and creating and maintaining external resources and networks (22%) to support business incubation. In fact, successful business incubation programs get around this problem by allowing managers to devote their attention to these activities rather than on building maintenance and fundraising activities. However, this strategy involves additional staff and funding which may not be feasible in many instances unless there is strong commitment from the sponsoring institution. Given the dynamic nature of business incubation an active and focused management is a key consideration for a successful program where fostering entrepreneurship is the focal point.

The Role of Business Incubators. Overall, the contribution of primary incubator sponsors is characterized by providing business expertise (25.1%), commercial space at low cost (21.2%), and clerical support (18.5%) to entrepreneurs in incubation. Across incubators, only 17 percent of the budget is directly funded by primary sponsors which forces managers to be involved in fundraising activities, find ways to bring support and resources to the incubator, and get personally involved in building maintenance as described in the literature (e.g., NBIA 1991). Indeed, managers reported that affordable commercial space (22.8%) and clerical support (17.8%) are the services they are providing most effectively to new entrepreneurs. The majority of surveyed entrepreneurs clearly appreciate these services and indicated they are the primary motivation to move into the incubator. This is illustrated by the experiences of various entrepreneurs interviewed to complement the survey:

> *"In my case [the decision to join the incubator] was having accessibility to a fax machine, a copy machine, and someone to answer the phones for me, make copies and so forth. Things that I couldn't actually afford at that particular time"---A female entrepreneur.*

> *"The number one reason [to move in] was the cost. An incubator provides a place of low cost to get your wheels started so you don't get into financial problems right at the beginning. Very reasonable rent to get you started"---A white male entrepreneur.*

Even though managers claim to be promoting entrepreneurship in business incubation through various services clearly explained to clients, entrepreneurs do not appear to be satisfied with the entrepreneurial aspect of their incubator regardless of incubator type. Again, it is obvious that unless managers have the time to spend in direct consultation with clients, the role of incubators gets reduced to providing commercial space and clerical support at low cost. Incubator managers suggested that having a clear business incubation concept and effective working strategies is essential to foster entrepreneurship in business incubators and the community.

Perspectives on Education and Training. Education and training activities are moderately emphasized across business incubators, two-year college-sponsored incubators included. In fact, only a fourth of respondent entrepreneurs felt they have no need for education and training services. Entrepreneurs seem to prefer direct individual consultation (30.1%) instead of formal and informal education and training services. Thus, although services in the form of seminars, workshops and a series of modules may be available at the incubator, attendance appears to be a problem:

> *"Clients are busy during the day and any interruption in their schedule has to make sense in their daily operations. A lot of them are one- or two-person businesses. If the principal is not there, then you know there's nobody to answer all the questions if somebody calls and so forth. And that's a problem for attendance"---An incubator manager.*

One strategy to overcome this problem is to build a coherent and meaningful education and training program into the business incubation enterprise. Further, incubator staff must stress the importance of being prepared in various entrepreneurial aspects and use various techniques to reach and motivate entrepreneurs in and out of business incubation (see Hernández-Gantes, Sorensen, & Nieri, 1994b, for a guidebook of working strategies). Briefly, key elements of an effective program include, according to interviewed entrepreneurs:

> *"I would find it helpful if I could find time to do a course to learn how to get an idea developed, get it out there and market it, and how to grow that structure. I don't*

> *know how to put together what I need to support the continuation of the products. So I need help in structuring internally after you get the money, the product, and after you get moving; and how to develop it on the inside to support the product that's out there. How to get your business after the first year, know your market, know your product, and figure out how to make your idea perpetuate itself"---White female entrepreneur.*
>
> *"To me it would be about five different things. One, how to research whether you think you have a viable product or service. The second one would be if you think you know how to determine where and who your market is. The third one would just be basically how to set up books and keep accounting and government records. And the fourth one would be to develop the overall business plan which really encompasses the other three. And the fifth one would be a psychological one to really talk to [students] about reasonable expectations"—A white male entrepreneur.*

Concurrently, the use of alternative materials and techniques (e.g., video tapes and interactive computer programs) may add flexible opportunities and self-paced instructional opportunities for entrepreneurs with time restrictions. According to our results, this is an area that has not received adequate consideration across all surveyed incubators as reported by both incubator managers and entrepreneurs in business incubation. Further, the participation from educational institutions comes from primarily university faculty rather than two-year college personnel. Only in the case of two-year college-sponsored incubators the contribution of university faculty is absent and the participation of two-year college faculty increases to a rather modest level (about 15 percent contribution). The problems associated with using two-year college faculty may include scheduling conflicts, and higher fees due to college regulations on salaries (e.g., benefits, release time).

Conclusions

Survey findings are consistent with the literature on entrepreneurship and nothing new emerged on this area. However, findings related to the participation of two-year technical colleges in supporting business incubation and the development of entrepreneurship are informative and helpful in understanding opportunities for participation in community economic development.

Understanding Entrepreneurship

The profile of entrepreneurs is characterized by male, Caucasian, college-educated individuals. The intrinsic characteristics of entrepreneurs included five major properties: personal characteristics (intrinsic motivation, hard work values), technical preparation, business and management skills, capacity to utilize available resources and information to take advantage of business opportunities (entrepreneurial vision), interpersonal skills to communicate effectively with others and understand the social impact of business development. Entrepreneurs continue to enroll in business incubators seeking, primarily,

affordable commercial space and clerical support until they realize consulting services and the development of an entrepreneurial vision may be more important.

The contribution of two-year colleges to the business and technical preparation of entrepreneurs is disproportionately low in comparison to the contribution of four-year colleges and graduate schools. It is obvious that two-year technical colleges are preparing individuals---in large part---for traditional employment, and neglecting preparation in entrepreneurship as another career path. It is clear there are a number of opportunities to improve services provided during start-up, survival period, and expansion and growth stages. Business and technical services, and access to information systems and technology are but only some opportunities to support entrepreneurs through their business development. Further, the utilization and development of a business plan appears to be greatly appreciated by entrepreneurs in business incubation and serves as a powerful tool for instructional purposes. Using the concept of a business plan may be helpful to develop a coherent sequence of courses with focus on entrepreneurship at the secondary and two-year college level where students can learn about authentic entrepreneurial experiences.

Entrepreneurial Development: Easing the transition to Business Ownership

Although two-year college-sponsored business incubators are supporting a slightly more diverse population of entrepreneurs in comparison to university-sponsored incubators, both management and in-house clients are predominantly represented by Caucasian males. Minorities and women continue to be disproportionately represented below their proportions in the general population as a whole, both as entrepreneurs and in incubator management positions. Participating incubator sponsors---two-year colleges included---appear to be providing primarily commercial space at low cost and clerical support to entrepreneurs rather than consulting services and strategies aimed at fostering entrepreneurship. Limitations in management arrangements (e.g., managers' spending considerable time in fundraising activities and building maintenance) seem to preserve the lack of focus on the broader mission of business incubators: to provide an environment conducive for development of entrepreneurship through consulting services and education and training activities.

Entrepreneurs and incubator managers recognized the need for education and training activities to help refine the original business ideas and complement the entrepreneurs' preparation as they start up and operate their business. However, entrepreneurs in incubation appear to be relying in direct individual consultation instead of taking advantage of education and training activities. Alternative strategies (e.g., self-paced instructional materials, computer interactive programs) to traditional formats for education and training activities are underutilized across all business incubators. Two-year community college faculty

and staff are not as involved in education and training activities in comparison to university faculty who contribute to a greater extent in these activities. Some problems associated with the participation of two-year college faculty were mentioned by managers interviewed for case studies. Facilitating release time to participate in flexible assignments as mentors and consultants may help to increase the participation of two-year faculty and staff in business incubation activities.

Transition to Business Ownership: Implications for Two-Year Postsecondary Institutions

The traditional role of two-year public colleges has been to prepare students for continuing education and productive participation in the workforce. However, current trends both in the work place and global markets, suggest the need to reassess the role of postsecondary technical education to focus on a more active participation on community development. Thus, technical and community colleges need to expand their traditional conception of education and training, and include entrepreneurship and economic development as a comprehensive community endeavor. This need is consistent with the emerging concept of vocational education advocated by current legislation which focuses on new competencies demanded in high-performance workplaces for both entrepreneurs and their employees, integration of vocational and academic education, linkages between secondary and postsecondary education, and integration of school-based and work-based learning opportunities (Hayward & Benson, 1993; Phelps, 1992; Rosenstock, 1991).

Because of the historic development of two-year colleges across the United States, their widespread location, and their close ties with the community, this appears to be an important opportunity for these institutions. An expanded role lies on a more proactive participation in community economic development through support of business incubation services, and providing a variety of business-related services to promote economic development and entrepreneurship in the community. That is, to provide opportunities for individuals to explore alternative career paths by tapping into their current business and technical skills and facilitate their transition options from school-to-work-to-business ownership.

Fostering Entrepreneurship in the Community

Active participation in community development has been largely underestimated due to political implications, short-term vision, inadequate leadership, funding, management, and time considerations (Kopececk, 1991). When these obstacles are overcome, the benefits can provide a sustained framework for economic development. Indeed, some states have already demonstrated the benefits for participation of community/technical colleges in providing technical assistance and technology transfer to small business. In 1991, for instance, 144 community colleges sponsored assistance centers to

small businesses (Carmichael, 1991). However, with more than 1,300 community colleges in the U.S., significant room for improvement exists. This contribution can also be complemented through partnerships with local industry to provide internships, scholarships, specialized training, and programs focusing on entrepreneurial development (Weinberg & Burnier, 1991).

Of these opportunities, business incubation offers, perhaps, one of the most comprehensive strategies to promote entrepreneurship, create jobs, stimulate economic growth, and revitalize rural areas or depressed neighborhoods. Business incubators, provide commercial space at low cost and a host of business services to help entrepreneurs survive successfully earlier stages of business development (NBIA, 1991). Business incubators offer opportunities to integrate education and training activities with focus on entrepreneurship, business, management, trade, and basic skills, and specialized training. Further, they serve as a vehicle to support local business development and jobs by providing consulting services and stimulating business alliances (Carmichael, 1991; NBIA, 1991; Weinberg & Burnier, 1991). However, the total number of incubators sponsored or managed by two-year postsecondary institutions is only 25 according to the National Business Incubation Association (1993), which holds a membership of approximately 500 business incubators. Clearly, the current level of participation is rather low. Various strategies to work in partnership with community players, and the provision of additional services to employers, workers, and students are encouraging but still isolated. The questions that remain are whether community and technical colleges can revisit and implement an expanded role to prepare students for a productive school-to-work transition, help individuals ease the transition to business owners, support the needs of the established local industry, and become proactive players in the development of the community.

Improving Transition to Business Ownership Opportunities

First, entrepreneurs reported gaining previous experience related to the activities and operations of their current business primarily through hands-on work in school, internships in similar businesses, part-time jobs in related industry and mentor programs. However, only a very small number of entrepreneurs indicated they had enough previous experience needed to explore, start up, or run a business and needed further education and training. In fact, only a small number of entrepreneurs indicated they had learned their business and technical skills in either high school programs or in a community/technical college. Two-year technical colleges focus on preparation for traditional work roles and contribute little to the awareness of and preparation for entrepreneurial opportunities through coursework at various levels (e.g., certificates, associate degrees). Emphasizing the integration of entrepreneurship content into technical curriculum or as separate complementary or elective coursework can enhance the participation of two-

year college participants in entrepreneurial activities. The role of counselors and instructors in the creation of awareness and a coherent approach to curriculum integration of entrepreneurship content are key elements for this strategy.

Second, participation in business incubation and other related activities in the community provides for broad partnership opportunities which can result in connecting activities for students to explore various business environments. This exposure can be gained through business incubator tours, internships, cooperative arrangements, and even part-time job opportunities with incubator firms. In some instances, business incubation can serve as a "real life" laboratory where entrepreneurs can learn about business operations. In these situations, incubator and college staff benefit from active cooperation and participation. Incentives for incubator firms may include tax write-offs for salaries paid to interns as well as access to committed and motivated individuals for temporary employment. Students will benefit from the direct exposure while earning academic credit, experience, and some income. Incubator and college staff can use these opportunities for consulting and instructional purposes as they work closely with participating students and entrepreneurs.

Third, opportunities for connecting opportunities with business incubators and businesses in the community for exposure and exploration purposes can be also extended to secondary students. Business tours, in particular, are being used to provide exploratory opportunities to secondary students in some communities (see report on case studies, Hernández, Sorensen, & Nieri, 1995a). As high school move toward school-to-work programs with enhanced work-based learning opportunities for all students, mentoring opportunities with incubator clients (firms) and managers could reveal important perspectives for youth considering careers in small businesses.

Fourth, integration of entrepreneurship into high school curricula will also provide opportunities to learn "all aspects of the industry" and the new competencies demanded in high-performance workplaces for both entrepreneurs and workers. Some high schools already integrate entrepreneurship in curriculum activities to provide students with opportunities to learn not only about broad occupational clusters within an authentic context, but also about the management and entrepreneurial aspects of the industry (Nielsen-Andrew, 1994; Rosenstock, 1991; SCANS, 1991). This comprehensive approach expands the exposure to various alternative pathways, and students can explore work and entrepreneurial opportunities while integrating academic competencies into a vocational-technical context.

References

Bailey, T. (1991). Jobs for the future and the education they will require: Evidence from occupational forecasts. *Educational Researcher, 20(2)*, pp. 11-20.

Carmichael, J.B. (1991). Meeting small business needs through small business development centers. *New Directions for Community Colleges, No.75*, pp. 25-30.

Committee for Economic Development. (1992). *An Assessment of American Education: The views of employers, higher educators, the public, recent studies, and their parents.* Washington, D.C.: Author.

Goodman, J. (March, 1994). Myth of the gunslinger. Is entrepreneurship risky?: Not if you do it right. *Success, 41(2)*, pp. 34-39.

Hayward, G., & Benson, C. S. (1993). The changing role of vocational-technical education in the United States. *Center Work, 4*(2), 1-3. Berkeley, CA: National Center for Research in Vocational Education.

Hernández-Gantes, V. M., Sorensen, R. P., & Nieri, A. H. (1995a). *Fostering entrepreneurship: The role of postsecondary technical education. Case studies.* Berkeley: National Center for Research in Vocational Education, University of California at Berkeley.

Hernández-Gantes, V. M., Sorensen, R. P., & Nieri, A. H. (1995b). *Fostering entrepreneurship in the community: The role of postsecondary vocational education. Guidebook of opportunities for two-year technical colleges.* Berkeley: National Center for Research in Vocational Education, University of California at Berkeley.

Kopececk, R. J. (1991). Assuming a leadership role in community economic development. In G. Waddell (Ed.), *Economic and work force, Num. 75*, pp. 41-46. New York: Jossey-Bass Inc.

National Business Incubation Association. (1991). *The State of the Business Incubation Industry.* Athens, OH: Author.

National Business Incubation Association. (1993). *Directory of business incubators and members 1993-1993.* Athens, OH: Author.

National Center on Education and the Economy. (1990). *America's Choice: High skills or low wages.* Rochester, NY: Author.

Nielsen-Andrew, E. (1994). Education, work; and all aspects of the industry: What does it all means? *NCRVE-Center Work, 2*(2), pp. 2-3.

Phelps, L. A. (1992). Designing effective education-work linkages. *Issues in Education and Work.*. Madison: Center on Education and Work, University of Wisconsin-Madison.

Rosenstock, L. (1991). The walls come down: The overdue reunification of vocational and academic education. *Phi Delta Kappan, February*, pp. 434-436.

Secretary's Commission on Achieving Necessary Skills. (1991). *What work requires of schools.* Washington, D.C.: U.S. Department of Labor.

Smilor, R. W., & Gill, M. D., Jr. (1986). *The new business incubator: Linking talent, technology, capital, and know-how.* Massachusetts: D.C. Heath and Company.

Sudikoff, J. P. (March, 1994). Mind of the manager: Street smarts. Inc, 16(3), p. 23.

Timmons, J. A. (April, 1994). The entrepreneurial mind. *Success, 41*(3), pp. 48-51.

U.S. Congress, Office of Technology Assessment. (1990). *Worker Training: Competing in the new international economy.* OTA-ITE-457, Washington, D.C.: U.S. Government Printing Office.

U.S. Small Business Administration. (1991). Annual Report on small business and competition. In *The State of Small Business: A Report to the President.* Washington, D.C.: U.S. Government Printing Office.

William T. Grant Foundation Commission on Work, Family and Citizenship. (1988). *The Forgotten half: Pathways to success for America's youth and young families. Final Report.* Washington, D.C.: Author.

Weinberg, M. L., & Burnier, D. (1991). Developing rural business incubators. *New Directions for Community Colleges, No.75,* pp. 31-39.